P-4/22752

Administration Report of the Public Works Department in the Province of Bombay for the Year 1936-37

With a detailed review of the Civil and Military Works

GOVT. MYSORE CENTRAL SECRETARIAT PUBLICATIONS

BOMBAY
PRINTED AT THE GOVERNMENT CENTRAL PRESS
1938

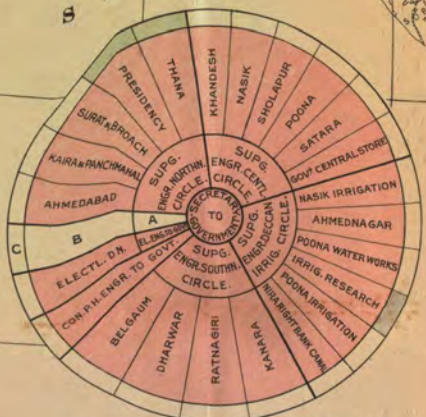
Obtainable from the Superintendent, Government Printing and Stationery, Bombay, or through the High Commissioner for India, India House, Aldwych, London, W.C.2, or through any recognized Bookseller

[Price—Re. 1 As. 14 or 3s. 3d.]

PROVINCE OF BOMBAY

PUBLIC WORKS DEPARTMENT
DIVISION MAP
1936-37.

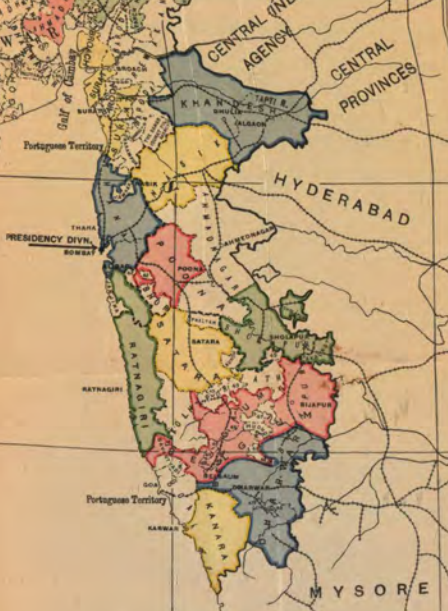
Scale — 105 Miles to 1 Inch.



Secretary ——— is a Chief Engineer.
Administrative Zone 'A' ——— } have { Permanent Circles & Divisions ... Pink.
Executive Division Zone 'B' ——— } have { Permanent Circles & Divisions ... Pink.
Zone 'C' shows nature of Executive Division in Zone 'B' — as follows — { Road & Buildings Divisions (a). Green; Irrigation do (b) Blue; Mixed a & b & Miscellaneous do White

DIAGRAM SHOWING PUBLIC WORKS DEPARTMENT ADMINISTRATION

Jurisdiction of Con. P.H. Engineer to Govt. ... Whole Province.
Electrical Engineer ... Do.



ARABIAN SEA

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PUBLIC WORKS DEPARTMENT.

PROVINCE OF BOMBAY.

ADMINISTRATION REPORT WITH A DETAILED REVIEW OF THE CIVIL AND MILITARY WORKS FOR 1936-37.

I—DIRECTION.

During the year under report Mr. T. A. Andrew, B.Sc. (Eng.) Glas., I.S.E., continued as Chief Engineer and Secretary to Government.

II—ADMINISTRATIVE MEASURES.

With effect from the 1st April 1936, Sind was constituted into a separate Province and accordingly the combined cadres of the Indian Service of Engineers and the Bombay Service of Engineers were also separated into two cadres for the provinces of Bombay and Sind with effect from that date. In the inter-provincial distribution of officers, 45 officers of the Indian Service of Engineers and 98 officers of the Bombay Service of Engineers have been allocated to Bombay.

Mr. G. B. Bagul, B.E., Candidate, was appointed as an Deputy Engineer (on probation) in the Bombay Service of Engineers with effect from the 17th June 1936.

III—TERRITORIAL CHANGES.

The Satara Division was reopened with effect from the 15th April 1936.

The Parsul and Khirdi Sathe Tanks from the Nasik Irrigation Division were transferred to the Nasik Division.

The portion of the Mahad-Pandharpur Road from mile No. 42/3 to Lonand and the portion of the old Poona-Satara Road from Lonand to Wathar Station (length 11 miles) with the Public Works Department buildings along it were transferred from the Deccan Irrigation Circle to the Central Circle.

An additional Electrical Sub-division in the Electrical Circle, designated the "Nasik-Khandesh Electric Sub-division" with headquarters at Kalyan, was formed with effect from 1st April 1936.

Miscellaneous.

With effect from the 25th April 1936, on which date Mr. F. O. J. Roose, M.I.Mech.E., M.I.E.E., F.C.S., Electrical Engineer to Government

proceeded on leave preparatory to retirement, Mr. R. G. Higham, M.I.E.E., Executive Engineer, Electrical Division and Electric Inspector, was appointed to officiate as Electrical Engineer to Government and Electric Inspector for the Province of Bombay and Province of Sind *vice* Mr. Roose. Mr. Higham was confirmed in his appointment with effect from the 25th October 1936.

IV—DETAILED REVIEW.

A. Civil Buildings.

During the year under report the total expenditure on the Roads and Buildings Branch of the Public Works Department amounted to Rs. 1,14,14,063. Details of expenditure under the various heads are given below :—

Central Services.

		Rs.
Customs—		
Works	..	15,985
Repairs	..	31,091
Total	..	47,076
Salt—		
Works	..	26,180
Repairs	..	96,204
Total	..	1,22,384

The work of constructing a bungalow for the Assistant Collector of Salt Revenue, Land Customs Lines at Viramgam, was completed during the year at a total cost of Rs. 21,067. Besides quarters for five Customs Inspectors and one Appraiser at Viramgam were also completed during the year. The expenditure amounted to Rs. 42,481. In addition an office building for the Salt Department was undertaken during the year.

		Rs.
Ecclesiastical—		
Works	..	50
Repairs	..	26,201
Total	..	26,251
Political—		
Works	..	8,750
Repairs	..	8,441
Total	..	17,191

The amount of Rs. 8,750 represents the outlay on additions and alterations to the office buildings in the Residency at Kolhapur.

Scientific Department—(Meteorological)—		Rs.
Works		4,095
Repairs		7,812
	Total ..	11,907
Archæological—		
Works		100
Repairs		1,03,390
	Total ..	1,03,490

The most important item under this head was special repairs to the Gol Gumbaz at Bijapur. The dome of this tomb was leaking and had developed cracks. It was treated with reinforced gunite and provided with hooping reinforcement both at the base of the tomb and at its plane of rupture at a total cost of Rs. 68,565.

Public Health—		Rs.
Repairs		315
Mint—		
Works		2,000
Repairs		18,071
	Total ..	20,071
Currency—		
Works		....
Repairs		6,420
	Total ..	6,420
Posts and Telegraphs—		
Works		39,454
Repairs		95,593
	Total ..	1,35,047

Suitable additional accommodation for Telephone Exchange Office in the Post and Telegraph office at Viramgam was provided at a cost of Rs. 4,623. The work of constructing a Post Office at Bhamburda with quarters for the Sub-Post Master costing Rs. 10,466 was completed.

Military Works—	Rs.
Works	....
Repairs	3,616
Total ..	3,616

Provincial Services.

Land Revenue—	
Works	4,413
Repairs	3,730
Total ..	8,143
Excise—	
Works	30,119
Repairs	19,316
Total ..	49,435

The work of constructing a new liquor warehouse near Poona Railway Station was completed at a cost of Rs. 33,935. An amount of Rs. 1,840 was spent on constructing new Excise Lines at Malwan. The work was in progress.

Forest—	Rs.
Works	14,759
Repairs	9,985
Total ..	24,744

The work of constructing a new office building for the Divisional Forest Officer, Western Division, Kanara, estimated to cost Rs. 15,105 was undertaken during the year and an outlay of Rs. 9,163 was incurred.

Registration—	Rs.
Works	1,704
Repairs	909
Total ..	2,613
General Administration—	
(*a*) *Residences for Heads of Provinces*—	
Works	29,760
Repairs	1,89,556
Total ..	2,19,316

The work of providing drainage to Government House, Ganeshkhind, Poona, estimated to cost Rs. 17,167 was in progress. The expenditure on the work during the year amounted to Rs. 4,999.

(b) *Provincial Legislative Councils*—	Rs.
Works	55,316
Repairs	25,468
Total ..	80,784

Certain additions and alterations were carried out in the Council Offices, Bombay, in order to render them suitable for the newly constituted Upper Chamber. The expenditure on the work amounted to Rs. 22,725. The Chamber was treated with sprayed "Limpet" Asbestos to improve the acoustics of the hall. The work of constructing a temporary block for providing accommodation for the two Chambers of the Reformed Provincial Legislatures in Poona was also completed.

(c) *Residences*—	Rs.
Repairs	679
(d) *Secretariat and Headquarters Establishment*—	
Works	1,372
Repairs	12,944
Total ..	14,316
(e) *Commissioners and District Officers*—	
Works	90,623
Repairs	1,33,258
Total ..	2,23,881

During the year under review the following works were undertaken :—

	Estimated cost. Rs.
(1) Constructing a new kacheri for the Mamlatdar at Kumta	48,252
(2) Constructing Revenue Establishment quarters at Yellapur	29,575
(3) Constructing Revenue Establishment quarters at Mundgod	23,064
Administration of Justice—	Rs.
Works	34,408
Repairs	73,654
Total ..	1,08,062

Police—		Rs.
Works	..	2,13,823
Repairs	..	2,76,187
Total	..	4,90,010

The scheme for providing additional accommodation for the Police Department in the compound of the School of Art, Bombay, was undertaken during the year. The scheme consists of a four storeyed building containing office accommodation on the ground and first floors and quarters for officers on the second and third floors and subsidiary structures. The work was in progress. The expenditure during the year amounted to Rs. 33,499. At Thana thirty blocks for accommodating 148 constables together with a kit room, armourer shop, Chief Operator's office, etc., were constructed. The work was nearly completed, the expenditure incurred during the year being Rs. 1,06,312. The work of constructing additional Police quarters for the Head quarters Police Lines at Sholapur was completed at a cost of Rs. 1,70,118 except the water supply scheme.

Jails and Convict Settlements—		Rs.
Works	..	29,389
Repairs	..	31,802
Total	..	61,191
Education—		
Works	..	21,949
Repairs	..	61,268
Total	..	83,217

The work of providing flushing type of latrines in hostels and other buildings of the College of Engineering, Poona, was completed.

Miscellaneous—		Rs.
Works	..	14,620
Repairs	..	27,878
Total	..	42,498
Medical—		
Works	..	1,19,576
Repairs	..	1,20,853
Total	..	2,40,429

The work of providing additional accommodation at the Central Mental Hospital, Yeravda, at an estimated cost of Rs. 2,62,147 was in progress.

		Rs.
Miscellaneous—		
Works		3,533
Repairs		39,232
	Total ..	42,765
Agriculture—		
Works		8,975
Repairs		18,709
	Total ..	27,684
Stationery and Printing—		
Works		5,055
Repairs		9,137
	Total ..	14,192
Civil Works—		
Works		40,749
Repairs		1,79,290
		2,20,039

Out of these an amount of Rs. 53,548 related to deposit contribution works. A Remand Home for 80 girls in the compound of the Rescue Home, Umerkhadi, Bombay, a deposit contribution work was completed during the year at a cost of Rs. 41,674.

		Rs.
Public Health—		
Works		2,700
Repairs		26,114
	Total ..	28,814
Miscellaneous Departments—		
Works		4,498
Repairs		9,235
	Total ..	13,733

Government Central Stores, Workshop and Training Centre, Dapuri.

During the year under report the total outturn inclusive of the closing balance of Rs. 1,540 amounted to Rs. 1,39,196 as against the previous year's figure of Rs. 1,62,118. The work done was of a varied nature as

usual and included repairs to road rollers, pumps of all descriptions, oil engines, steam engines, stone crushers, meter boxes, velocity rods, roof trusses, etc. The work of manufacture of "Everite" specials and joints for a firm in Bombay was continued during the year. The number of work orders opened during the year amounted to 375 and the number closed was 392. The work of overhauling a large pumping engine 100,000 gallons per hour against 113 feet head for the Surat Municipality was undertaken during the year. A similar overhaul of two engines at the Kolhapur Water Works was carried out. The total value of the Public Works Department surplus tools and plant issued to other Divisions amounted to Rs. 28,262. The services of the Boring Department were constantly requisitioned by private bodies and municipalities and the volume of work done by the Department considerably increased. 36 road rollers and 2 portable engines were inspected. During the year under review 27 apprentices were under training.

B. Electrical.

Electric Licenses.

Electric supply continued to attract the attention of the public in an increasing degree. Eleven new licenses were granted during the year under report for the supply of electricity to Gadag-Betigeri, Anand, Bassein, Manmad, Ratnagiri, Chopda, Bhiwandi, Byadgi, Ranebennur, Wai and Junnar, while several additional applications were under the consideration of Government. By the end of the year under review, electricity had been introduced in 46 centres in the Province and 13 other centres were in the process of being electrified. The number of licenses excluding those revoked, but including sanctions under Section 28 of the Indian Electricity Act actually in operation in the Province at the beginning of the year was 59 while at the end of the year the number operating was 65.

Electricity Duty.

The electricity duty was first imposed by the Finance Act of 1932 and has continued to be in operation in the succeeding years. The receipts from the tax amounted to Rs. 10,05,961 during the year. The receipts are credited to the head "XXXV-Miscellaneous—Provincial" with effect from the year 1933–34.

Electrical Works.

The expenditure incurred by the Electrical Branch during the year under the various heads was as under :—

	Rs.
(*a*) New works and additions and alterations to existing works	75,647
(*b*) Repairs	1,73,826
(*c*) Tools and Plant	8,702
	2,58,175

The following important works were carried out during the year :—

	Rs.
(1) Providing electric installation in the Central Prison and quarters attached to it at Sabarmati, Ahmedabad	15,542
(2) Providing additions to the electric installation at the Nasik Road Central Prison ..	5,663
(3) Providing electric installation in the Reformatory School and Superintendent's quarters, Yeravda	3,281
(4) Providing electric installation in the quarters for the staff at the Yeravda Prison Press ..	2,748
(5) Providing additions and alterations to the electric installation in the Council Hall, Poona	3,326
(6) Providing additions and alterations to the electric installation in the Council Offices, Bombay	1,733
(7) Electrification of Salt Department Buildings at Viramgam	3,259

The total expenditure incurred on repairs was :—

Ordinary repairs	1,33,851
Special repairs	39,975
	1,73,828

C. Communications.

The total expenditure incurred under this head during the year was as under :—

	Rs.
Works financed from Ordinary Revenues—	
Works	2,68,318
Repairs	28,60,574
Works financed from Petrol Tax Fund—	
Works	19,23,773
Repairs	44,726
Works not charged to Revenues—	
Works	1,986

The principal works financed during the year and the expenditure incurred on them was as under :—

Deccan Irrigation Circle.	Rs.
Constructing a submersible bridge of the R. C. C. Deck Girder type over the Karha river in mile 31 of Indapur-Baramati-Nira Road	71,797
Constructing a bridge over the Kas river near Bota in mile 60/7 of Poona-Nasik Road	20,074
Reconstructing and substantially improving Poona-Sholapur Road from miles 5/1 to 35.. ..	91,900
Constructing a bridge in mile 38/5 of Poona-Sholapur Road	18,499

NORTHERN CIRCLE.

Thana Division.	Rs.
Constructing a three stage landing at Dharamtar (Alibag side)	4,839
Constructing Talasari-Vapi Road Section IV ..	36,969
Constructing high level causeway over the Balganga river and diversion in mile 4/7 of Pen-Panvel Section	17,660
Constructing R. C. C. bridge with approaches over the Patalganga river near Kharpada in mile 7/6 of Pen-Panvel Section of the Bombay-Konkan-Goa Road	1,34,161
Improvements to cross drainage works in miles 37 to 45 of Bombay-Agra Road	20,504
Improvements to soft portions in miles 29 and 32 to 67 of Bombay-Poona Road	41,784
Providing $2\frac{1}{2}$″ shel-macadam surface over 3″ water bound macadam in miles 12–22 of Bombay-Agra Road	88,673
Constructing a masonry arched (skew) bridge over the Kamveri river in mile 46/4 and raising and improving the road on Kurla-Vihigaon Section in mile 46/5 of Bombay-Agra Road	5,189
Improvements to Dharamtar-Campoli Road ..	24,808
Widening the asphalt macadam width of miles 6/4 to 9/7 in the section from Andheri to Mira of Bandra-Ghodbunder Road	46,971
Widening bridge No. 110 in mile 14/6 of Andheri-Mira Section of Bandra-Ghodbunder Road ..	2,496
Raising and widening the roadway in mile 27 of Bombay-Poona Road	4,965

A R.C.C. BRIDGE UNDER CONSTRUCTION OVER THE PATALGANGA RIVER
AT MILE No. 7/6 OF PEN-PANVEL ROAD.
Down-stream view of the Bridge having 3 "Bow-string" girders of 100′ span each.
Commenced in October 1935.
Estimated cost Rs. 2,09,769.
Thana Division Northern Circle.

Surat and Broach Division.

	Rs.
Improving Navsari-Matwad Road, miles 4 to 9/6 ..	3,894
Raising North-western approach of the Hope Bridge at Surat (portion of Surat-Sahol Road—miles 2 and 3)	3,998
Reconstructing Tancha Nalla bridge in mile 18/2 of Broach-Jambusar Section	5,000
Constructing cross drainage work over Balda Nalla in mile No. 4 of Madhi-Mandvi Road ..	4,999

Kaira and Panch Mahals Division.

Constructing cross drainage works on Dohad-Aliraj-pur road	43,736
Providing rubble stone bedding and remetalling of Dohad-Alirajpur Road	18,673
Constructing a high level causeway over the Sarvani Nalla in mile 6/6 of Kaira-Bareja Road ..	3,600
Constructing 2′ × 2′—6″ pipe drain culvert No. 45 into 2′ × 15′ girders at mile 21 between Dakor and Thasra on Anand-Godhra Branch of the Bombay, Baroda and Central India Railway ..	8,000
Constructing a culvert in mile 2/6 of Dakor-Pali Section of Ahmedabad-Kaira-Godhra-Indore Road	1,986

Ahmedabad Division.

Metalling and improving the road from Viramgam to Mandal. This work was commenced in 1930–31 and the expenditure till the end of March 1937 was Rs. 2,51,519. The expenditure during the year was	1,499
Reconstructing miles 1/5 to 5/3 of Ahmedabad-Sarkhej Section of Ahmedabad-Viramgam Road..	52,217

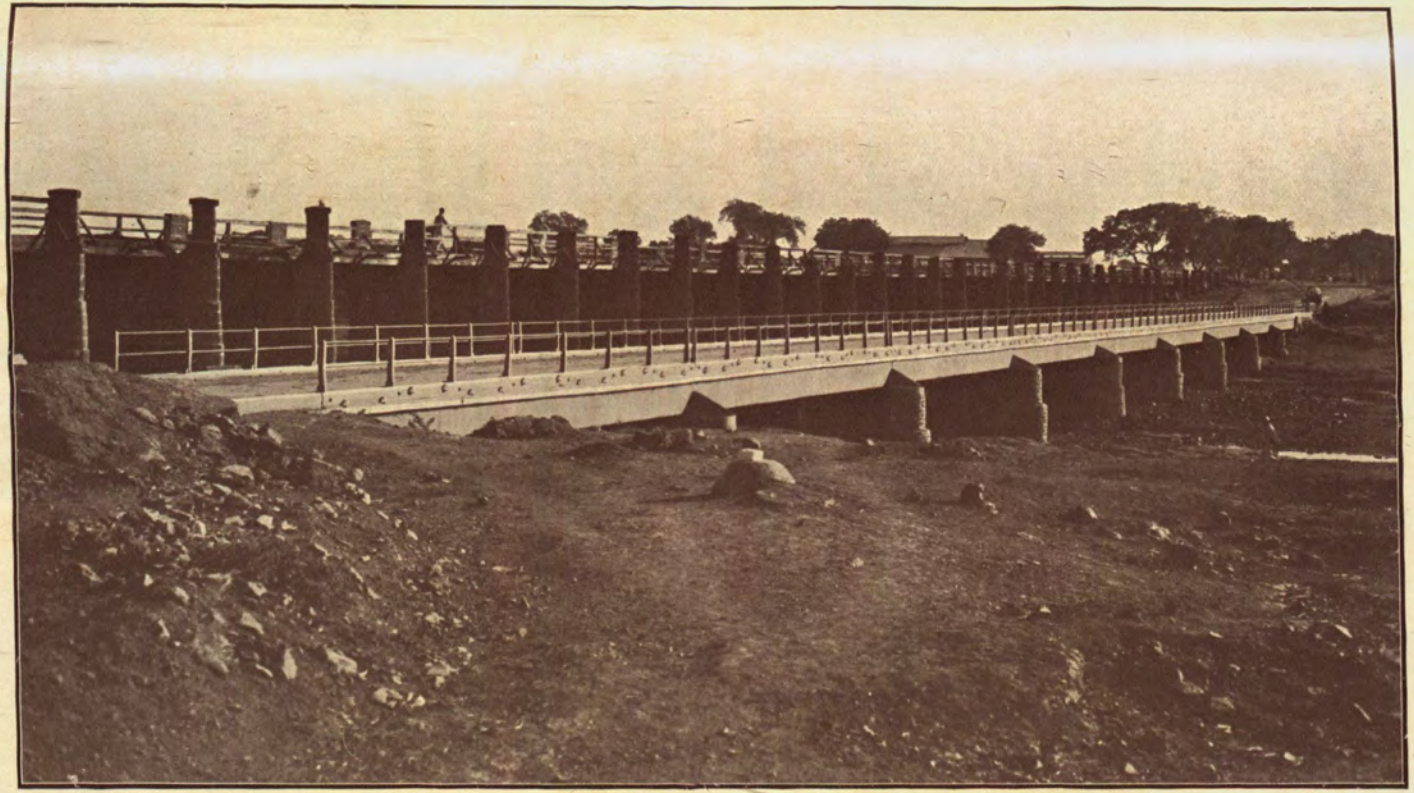
Scarcity works in Panch Mahals District.

Owing to scanty rainfall during the year 1936–37 crops failed in the District of Panch Mahals, especially in the Dohad and Jhalod talukas. Test works were therefore opened first for collection of metal on Dohad-Kundanpur road. Subsequently two tank works, viz. Bajarwada and Lilwa Thakor were opened in Jhalod taluka. As labour on test works began to increase Government declared scarcity from 1st November 1936. Since then nearly 33 works (including village tank works, road works

and Revenue tank works) were opened one by one to meet the demand of increasing labour. Up to the end of March 1937 nearly 14,84,755 units were provided in all scarcity works and about Rs. 2,13,077 expended. As regards medical arrangements, medicines were stored at each work and table dispensaries provided where necessary. The general health and sanitation on all works was satisfactory.

CENTRAL CIRCLE.

	Rs.
Poona Division.	
Modernising the portion from miles 3 to 8/2 of the Poona-Satara Section and the road surface in the Katraj Tunnel in mile No. 11 of the Poona-Bangalore road	9,999
Making improvements to low-lying miles 75 to 84 on Poona side of Khandala on Khandala-Poona Section of Bombay-Poona Road	1,39,946
Modernising roads in Poona	1,76,032
Submersible bridge over the Kukadi river at Pimpalwandi in mile No. 53 of the Poona-Nasik Road ..	20,592
Reconstructing the portion of the Poona-Sholapur road from Bahiroba nalla to Hadapsar on Bombay-Poona-Sholapur-Hyderabad Road ..	61,288
Satara Division.	
Improving Kumbharli Ghat (miles 39-47 west from Karad) on Chiplun-Karad-Jath-Bijapur-Sindgi-Raichur Road	13,596
Constructing a Reinforced Cement Concrete submersible bridge over the Krishna river on Karad-Bijapur Section of Chiplun-Karad-Jath-Bijapur-Sindgi-Raichur Road	50,004
Reconstructing dangerous masonry works between Chiplun and Karad in mile No. 47 to Karad on Chiplun-Karad-Jath-Bijapur-Sindgi-Hyderabad Road	15,000
Crossing over the Nandni river on the Karad-Jath-Section of the Chiplun-Karad-Jath-Bijapur-Sindgi Road	994
Sholapur Division.	
Constructing a road from Yedshi to Chausala ..	882
Asphalting Provincial roads at Sholapur: Providing asphalt macadam $2\frac{1}{2}$" thick with $\frac{1}{2}$" mixed seal coat on the Osmanabad-Sholapur road (portion through Sholapur from mile 1/1 to 2/2)	10,000



MOSAM BRIDGE. MALEGAON.

On Bombay—Agra Road.

Cost Rs. 82,796.

Nasik Division.

	Rs.
Improving low-lying miles of the Bombay-Agra Road between Ghoti and Igatpuri	3,997
Treating the water-bound macadam surface of the side widths excluding surfaces "D" and "E.1" with Shelmacadam $2\frac{1}{2}$" with $\frac{1}{2}$" seal coat on the Nasik Station Road	603
Improving four furlongs in mile 125 beyond level crossing near Nasik Road Station on Nasik-Poona Road	1,999

Khandesh Division.

Extension from Edlabad to Ichhapur (Earth work, bridge over the Purna river and other masonry works) on Surat-Dhulia-Bhusawal-Edlabad-Nagpur Road—	
Earth work	29,376
Purna bridge and other masonry works ..	26,022
Asphalting Provincial roads passing through Dhulia :—	
(*a*) Bombay-Agra Road (*b*) Dhulia-Sakri Road (*c*) Dhulia-Edlabad-Nagpur Road	12,006
Burhanpur-Raver-Yawal-Chopda-Shirpur-Shahada-Taloda-Raisingpur Road—	
Raver-Yawal and Yawal-Chopda Sections :	
Improvements to the road in miles 18–45 and 46–83	10,007

Owing to scanty rainfall in the Poona and Sholapur Districts scarcity works were opened to relieve distress. The work consisted mainly of reserve metal collection and improving and widening the curves in miles 17 to 43 of Poona-Ahmednagar Road and improving Indapur-Akluj-Sangola road—miles 36 and 37.

SOUTHERN CIRCLE.

Belgaum Division.

	Rs.
Bridge over the Bhamburda river in mile 11/8 of the Math-Kasal road	8,205
Diversion of the Bombay-Konkan-Goa Road near Kudal town on Math-Kasal road	9,996
Improvements to Poona-Bangalore road, section from Sankeshwar to Belgaum	78,626

Belgaum Division—contd.

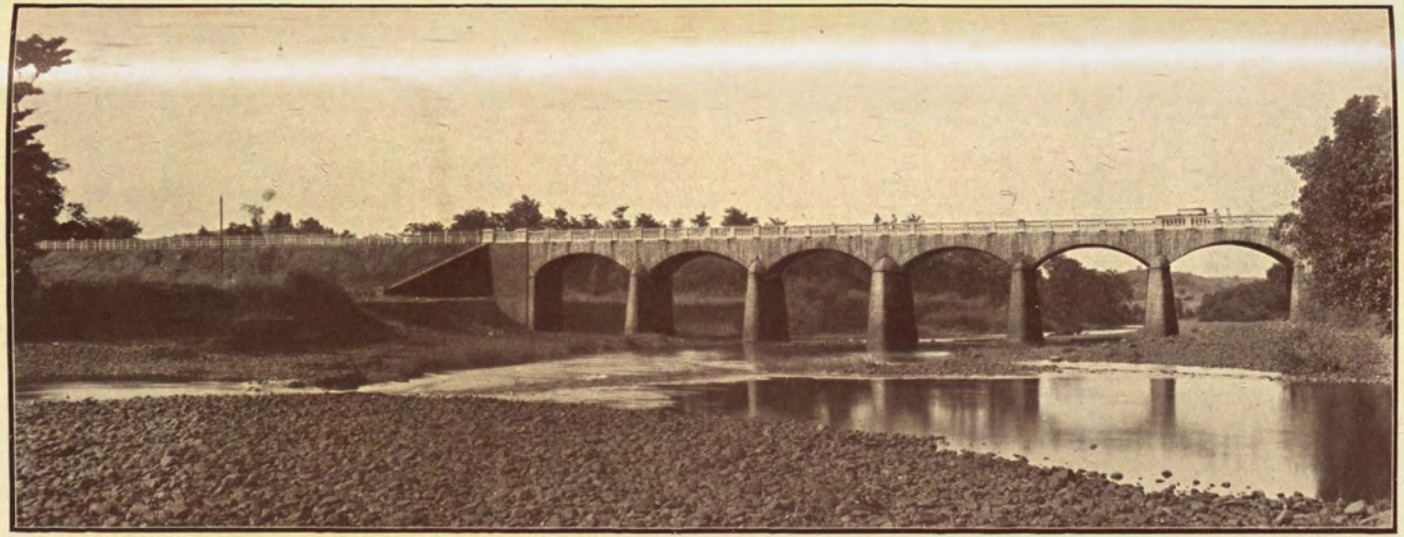
	Rs.
Improvements to Poona-Bangalore Road, Section from Kolhapur to Sankeshwar	1,07,978
Raising the level of the existing causeway over the Malaprabha river at Mugutkhan Hubli in mile 232/3 of Poona-Bangalore Road	995

Dharwar Division.

Asphalting miles 261 to 263 of the Poona-Bangalore Road	6,656
Asphalting miles 267 to 270	20,242
Improvements to Hubli-Sholapur Road—miles 39 to 45/6 of Konnur-Nargund Section	11,011
Improvements to Gadag-Hesrur Section of Karwar-Bellary Road	9,192
Constructing a causeway over the Budgatti Nalla in mile 14 of Havnur-Ekkambi Road ..	14,956
Reconstructing one mile 274/5 to 275/4 of the Poona-Bangalore Road with 2″ shell macadam ..	19,914
Asphalting mile 0 to ½ of the Hubli-Sholapur Road.	4,002

Ratnagiri Division.

Improvements to the Dharamtar-Mahableshwar Road from Dharamtar to Dasgaon—miles 13—56 (Vadkal-Mahad Section)	6,923
Constructing a bridge across the Kundalika river in mile 26 of Dharamtar-Mahableshwar Road ..	19,929
Widening the Kashedi-Khavti Ghat Road in miles 84-88 of Hatkhamba-Poladpur Road ..	19,909
Constructing 5 culverts over 5 big nallas in section II of Hatkhamba-Poladpur Road	5,158
Constructing 6 culverts in section I of Hatkhamba-Poladpur Road (Khed-Poladpur Section) ..	23,478
Constructing a masonry bridge over the Rajapur creek in mile 33 of Pali-Phonda Road ..	65,841
Constructing masonry drains with R. C. C. slabs over 20 small nallas in section II of Pali-Phonda Road	9,221
Constructing a masonry bridge over the Piyali river in mile No. 4 of Kasarda-Janoli Road ..	36,784



SOUTHERN CIRCLE—RATNAGIRI DIVISION.

A Masonry Bridge across the Piyali River in Mile No. 4 of Kasarda Janoli Road
Downstream view of the Bridge having 6 spans of 30′ each.
Commenced in May 1935. Work in Progress.
Estimated cost (Reduced) ... Rs. 1,16,405.
Upto date total Expenditure ... Rs. 1,04,000.

Kanara Division.

	Rs.
Improving the Sadashivgad-Kadra Road ..	991
Improving Karwar-Bellary Road	1,619
Improving Kumta-Hubli Road	24,868
Improving Khanapur-Yellapur Road—Part I ..	15,917
Improving Khanapur-Yellapur Road—Part II ..	5,581
Constructing a causeway across the Mavinhalla creek in mile 2/1 of Sadashivgad-Goa-Frontier Road	11,134
Improvements to Sirsi-Kodkani Road ..	8,131
Improvements to Kumta-Honawar Section—miles 42 to 52 of Karwar-Bhatkal-Madras Frontier Road	17,439
Constructing a causeway over Badgani creek in mile 45/8 of Karwar-Bhatkal-Madras Frontier Road	14,954
Miscellaneous—	
Original works	3,268
Repairs	53,038

Scarcity works.

Owing to failure of rains in some parts of the Bijapur District scarcity was declared and public works were started to give relief to the famine stricken people. The following works were started :—

Improving Indi-Shirdhon Road.

Improving Bijapur-Sindgi Road—Sections I and II.

Improving Kolhar-Talikot Road—Section II—miles 1-6.

Improving Kolhar-Talikot Road—Section II—miles 7-18.

Improving Bijapur-Bagewadi Road.

The total expenditure on scarcity works amounted to Rs. 15,779.

Arboriculture.

Nurseries were maintained at various places and the planting, watering and protection of road side trees continued to receive attention as usual. About 5,090 trees were planted during the year along Provincial and Local Fund roads.

D. MISCELLANEOUS.

Public Health, Water Supply and Drainage Works.

The expenditure during the year under the head 56-A-Capital Outlay on Improvements to Public Health amounted to Rs. 1,51,062.

During the year under report the pumping machinery at Pandharpur, Sholapur, Karad, Poona, Holkar's Bridge, Alandi, Uran and Shingnapur water works and Bahiroba Pumping Station were inspected and necessary repairs recommended. Plans and estimates for pumping machinery were prepared in connection with water supplies in Salsette, Amalner, Yeravda Central Jail Garden and also for Kurla Drainage. Due to rapid development of Poona City the quantity of sewage received at the Bahiroba Pumping Station from the Poona City Municipality was found to be much more than was expected and it was therefore found necessary to provide additional sets of pumping machinery at the Bahiroba Pumping Station. The machinery consists of one electrically driven pump and two pumps driven by solid injection oil engines through increasing gears. One of the oil engines is convertible to the use of sewage gas as a fuel in case plant for gas production is installed in due course. The expenditure incurred during the year was Rs. 1,06,671. The erection of a self-supporting chimney and a Green's economiser for the boiler in the compound of the Poona Water Works was completed. A sixth instalment of Rs. 25,000 was paid to the Military Department against the total purchase value of Rs. 5,00,000 for the Kirkee Water Supply Works.

The following works were either completed or in progress during the year :—

	Rs.
(1) Water supply to Ardeshir Irani Road ..	10,148
(2) Water supply to additional five hydrants on the existing main	7,512
(3) Extension of the existing Public Health Laboratory in the Poona Water Works compound	12,608
(4) Construction of a weir in the bed of the river Indrayani at Alandi for ensuring sufficient supply of water for Alandi	10,069

The following works were maintained during the year :—

	Rs.
Poona Water Works	1,69,961
Kirkee Water Works (including Pashan and Holkar's Bridge Water Works)	57,411
Bahiroba Pumping Station	91,431

The following Deposit Contribution works were carried out :—

	Rs.
(1) Alandi Water Supply	4,979
(2) Matheran Water Supply	8,493
(3) Poona Suburban Municipal Area Drainage ..	13,686

	Rs.
(4) Miscellaneous petty works for private and local bodies and Military authorities ..	10,270
(5) Khed Water Supply	61,063
(6) Chiplun Water Supply	43,860

E. Technical Papers.

The following two Technical Papers were published during the year under report :—

Note on experiments with a model of the head sluices of the Nira Left Bank Canal by C. C. Inglis, B.A., B.A.I., M.Inst. C.E., Superintending Engineer, Deccan Irrigation Circle and D. V. Joglekar, B.E., Assistant Engineer.

Report on experiments carried out with models in connection with the protection of the Hardinge Bridge on the Eastern Bengal Railway, by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Superintending Engineer, Deccan Irrigation Circle, Poona.

F. Railways.

The railways situated within the Province of Bombay are not administered by this Government but are under the general control of the Railway Board.

No new traffic surveys of any railway projects were carried out during the year.

The total length of the railways in the Province (excluding Indian States) opened for traffic during the year under review was 2390·196 miles made up as shown below :—

——	Broad gauge	Metre gauge	Narrow gauge	Total
	Miles.	Miles.	Miles.	Miles.
Bombay, Baroda and Central India Railway.	541·218	120·908	142·809	804·936
Great Indian Peninsula Railway.	822·321	....	62·064	884·385
Madras and Southern Mahratta Railway.	....	587·875	....	587·875
Barsi Light Railway ..	....	....	113·000	113·000
	1,363·539	708·784	317·873	2,390·196

Development Schemes.

I-Back Bay Reclamation Scheme.

The total expenditure on works and repairs incurred on the Back Bay Reclamation Scheme amounted to Rs. 657,807. The following works were carried out during the year.

A quantity of about 13,45,050 cubic feet of suitable building debris was obtained free of charge and deposited in Block No. VII at a cost of Rs. 4,986. The Cuffe Parade Extension was completed at a total cost of Rs. 1,08,674. The work of providing a sewerage scheme with ejector stations in Blocks I and II was nearly completed, the total expenditure being Rs. 2,09,290. The Churchgate Street Extension and certain other lengths of roads in Block No. II and the 40′ wide Marine Drive including a footpath 10′ wide on the west side from the extension of Churchgate Street to Chowpatty alongside of the sea wall were completed and handed over to the Bombay Municipality. Subsidiary works in connection with the construction of the Marine Drive to its full width in Blocks I and II were in progress. Sanitation and antimalarial measures were carried out by the Bombay Municipality on behalf of Government at a cost of Rs. 4,775. The damage caused to the New Sea Wall during the previous monsoon was repaired. The expenditure on repairs and maintenance of the New Sea Wall and rubble mound amounted to Rs. 7,000.

A list of the members of the Standing Advisory Committee for the Back Bay Reclamation Scheme will be found in Appendix IX.

II-Suburban Schemes.

Water Supply.—During the year under report laying of branch pipe lines and miscellaneous extensions, purchase and supply of meters of various sizes to the public in Salsette and providing and fixing dirt boxes on water mains were undertaken. The survey in connection with the Kanhery Valley project which was intended to provide an independent source of water supply to Salsette was abandoned. The total expenditure on new works and repairs and maintenance to pipes amounted to Rs. 17,606 and Rs. 18,010, respectively. The cost of purchasing water from the Bombay Municipality for distribution in Salsette amounted to Rs. 3,97,126 inclusive of supervision charges.

The total expenditure on Salsette and Ambernath Water Supply Schemes were :—

	Expenditure.	Receipts.
	Rs.	Rs.
Salsette Water Supply	4,32,743	5,28,161
Ambernath Water Supply	23,388	22,670

III-Ambernath Electric Supply Scheme.

The expenditure and receipts on this scheme amounted to Rs. 9,305 and Rs. 12,839, respectively.

MARINE DRIVE.

Date of commencement	April 1935.
Date of completion	March 1937.
Estimated cost	Rs. 3,91,119.
Total expenditure	Rs. 3,74,174.
Length of Road	8,390 R. Feet.
Width of Road including 10 feet Paved Foot Path ...	40 Feet
Area of Road including 10 feet Foot Path	40,108 Sq. Yds
Average rate per Sq. Yard of Road	Rs. 9.33

APPENDIX I.

Statement showing expenditure on Civil and Military Works during the year 1936–37.

Service Heads.	Original works.		Repairs.		Total.	
	Grants.	Outlay.	Grants.	Outlay.	Grants.	Outlay.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
8—*Military Works.*						
Works—Non-voted ..	....	....	3,650	3,613	3,650	3,616
Establishment—Non-voted ..	....	....	....	....	928	234
Establishment—Voted	....	....	....	....	....	890
Tools and Plant—Non-voted ..	....	....	....	....	102	....
Tools and Plant—Voted ..	....	....	....	....	....	50
Total, Military Works —Non-voted ..	....	....	3,650	3,616	4,680	3,850
Voted ..	....	....	....	....	....	940
41—*Civil Works—Central.*						
Buildings—Non-voted	....	....	17,409	17,222	17,409	17,222
Buildings—Voted ..	63,000	57,060	1,82,400	1,77,333	2,45,400	2,34,393
Establishment—Non-voted ..	....	....	....	....	4,212	16,570
Establishment—Voted	....	....	....	....	58,896	50,237
Tools and Plant—Voted ..	....	....	....	....	8,080	3,945
Grant-in-aid—Non-voted ..	....	....	....	....	2,991	2,961
Total, 41—Civil Works —Central ..	63,000	57,060	1,99,809	1,94,555	3,36,988	3,25,328
41—*Civil Works—Provincial.*						
Buildings—Reserved .	30,000	29,760	1,90,000	1,89,556	2,20,000	2,19,316
Buildings — Transferred	7,16,795	6,97,581	40,33,218	10,79,648	69,68,554	17,77,229
Communications ..	22,15,163	21,02,091		29,05,300		50,97,391
Miscellaneous ..	3,378	3,268		53,038		56,306
Establishment—Reserved—Non-voted ..	....	....	....	....	....	20,650
Voted ..	....	....	....	....	....	56,758
Carried over ..	29,65,336	29,22,700	42,23,218	42,27,542	71,68,554	72,27,650
	63,000	57,060	2,03,459	1,98,171	3,41,618	3,30,118

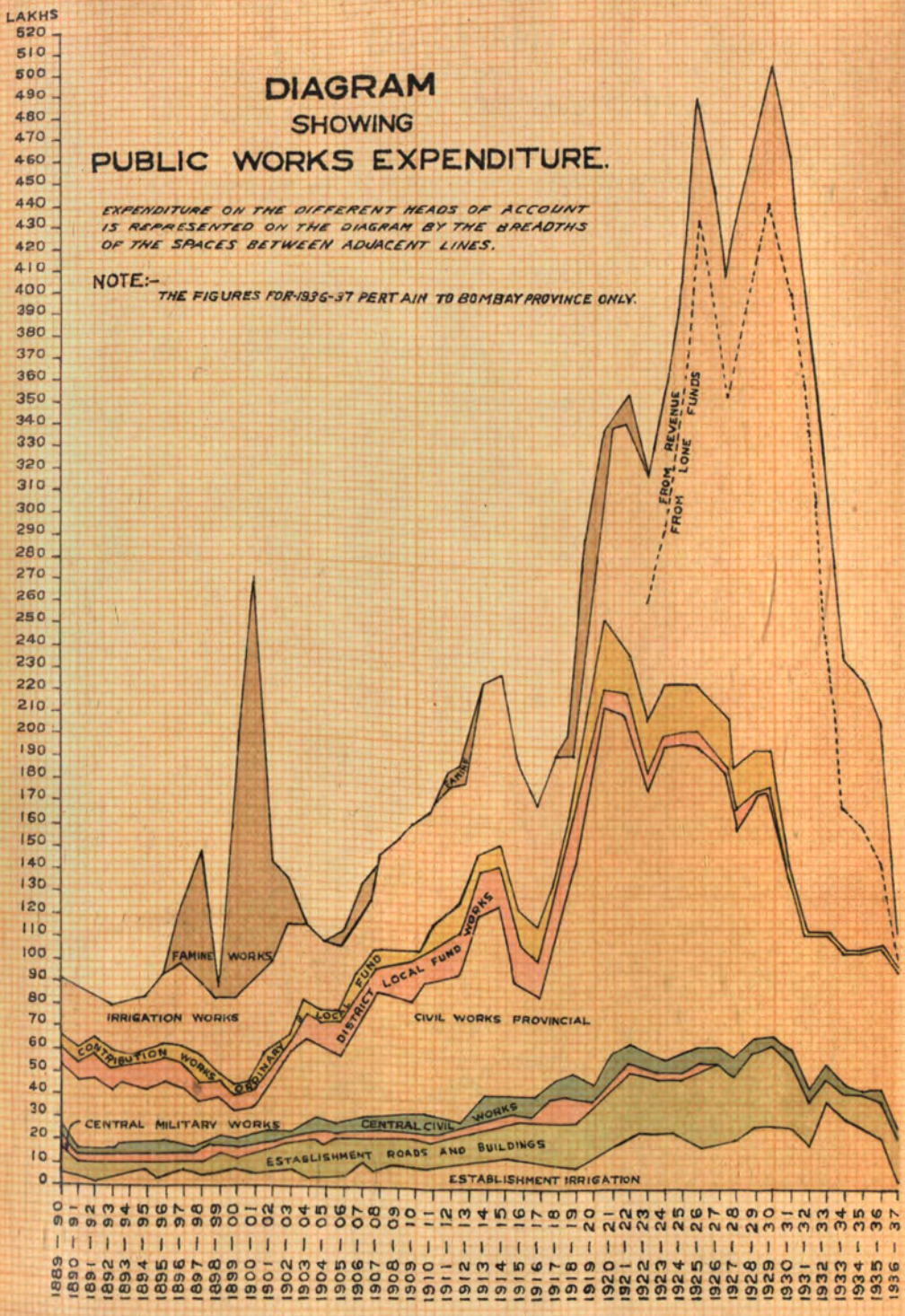
Service Heads.	Original works.		Repairs.		Total.	
	Grants.	Outlay.	Grants.	Outlay.	Grants.	Outlay.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Brought forward ..	63,000	57,060	2,03,459	1,98,171	3,41,618	3,30,118
	29,65,336	29,22,700	42,23,218	42,27,542	71,88,554	72,27,650
41—*Civil Works—Provincial*—contd.						
Establishment—Transferred—						
Non-voted ..	....	....	....	....	6,45,251	5,21,556
Voted ..	....	....	....	....	25,27,900	17,15,629
Tools and Plant—Reserved ..	....	....	....	....	....	4,017
Tools and Plant—Transferred ..	....	....	....	....	2,00,850	1,80,163
Grant-in-aid ..	....	....	....	....	9,52,485	10,63,917
Suspense ..	....	....	....	....	6,632	7,592
Deduct—English Cost of Stores and Establishment—						
Stores—Transferred Voted ..	....	....	....	....	—80	—65
Establishment—Non-voted ..	....	....	....	....	—1,83,000	1,83,693
Establishment—Voted ..	....	....	....	....	—2,400	2,387
Loss or Gain by exchange—						
Stores—Voted ..	....	....	....	....	....	....
Establishment—Non-voted ..	....	....	....	....	....	—1,000
Establishment—Voted ..	....	....	....	....	....	—12
Expenditure in England—						
Stores—Voted ..	....	....	....	....	80	65
Establishment—Non-voted ..	....	....	....	....	....	1,84,004
Establishment—Voted ..	....	....	....	....	....	2,400
Total—41—Civil Works—Provincial .	29,65,336	29,22,700	42,23,218	42,27,542	1,13,36,272	1,07,20,526
Total carried over ..	30,28,336	29,79,760	44,26,677	44,25,713	1,16,77,890	1,10,50,644

Service Heads.	Original works.		Repairs.		Total.	
	Grants.	Outlay.	Grants.	Outlay.	Grants.	Outlay.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Brought forward ..	30,28,336	29,79,760	44,26,677	44,25,713	1,16,77,890	1,10,50,644
60—*Civil Works—Provincial.*						
Communications ..	2,000	1,986	....	....	2,000	1,986
Establishment—Non-voted ..	....	....	....	....	....	129
Establishment—Voted ..	....	....	....	....	....	490
Tools and Plant ..	....	....	....	....	....	28
Total, 60—Civil Works—Provincial ..	2,000	1,986	....	....	2,000	2,033
District Local Fund ..	....	....	....	....	....	7,929
Deposits Contribution	....	....	....	....	....	3,52,857
Grand Total ..	30,30,336	29,81,746	44,26,677	44,25,713	1,16,79,890	1,14,14,063

DIAGRAM
SHOWING
PUBLIC WORKS EXPENDITURE.

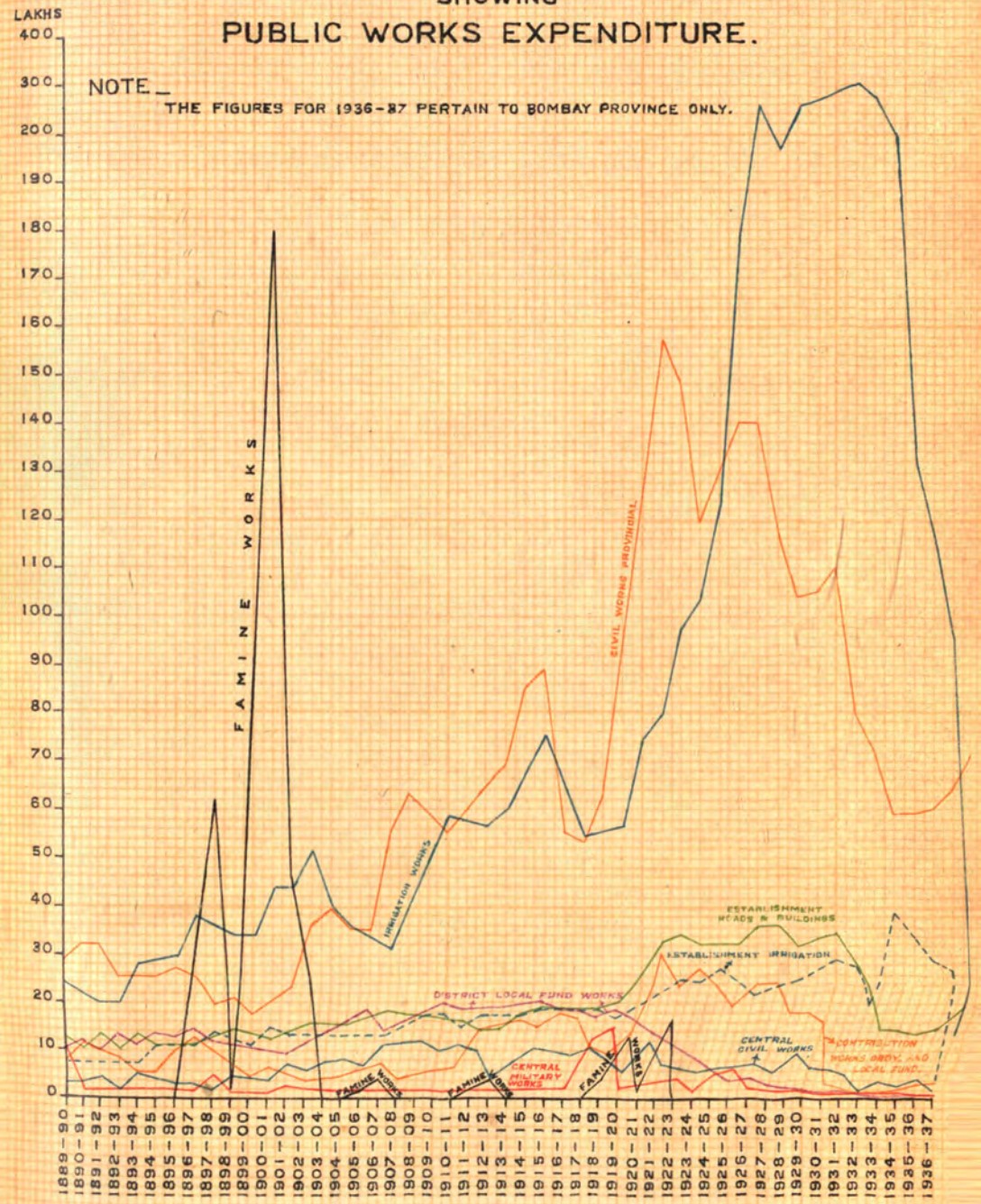
EXPENDITURE ON THE DIFFERENT HEADS OF ACCOUNT IS REPRESENTED ON THE DIAGRAM BY THE BREADTHS OF THE SPACES BETWEEN ADJACENT LINES.

NOTE:- THE FIGURES FOR 1936-37 PERTAIN TO BOMBAY PROVINCE ONLY.



G.P.Z.O. POONA, 1938.

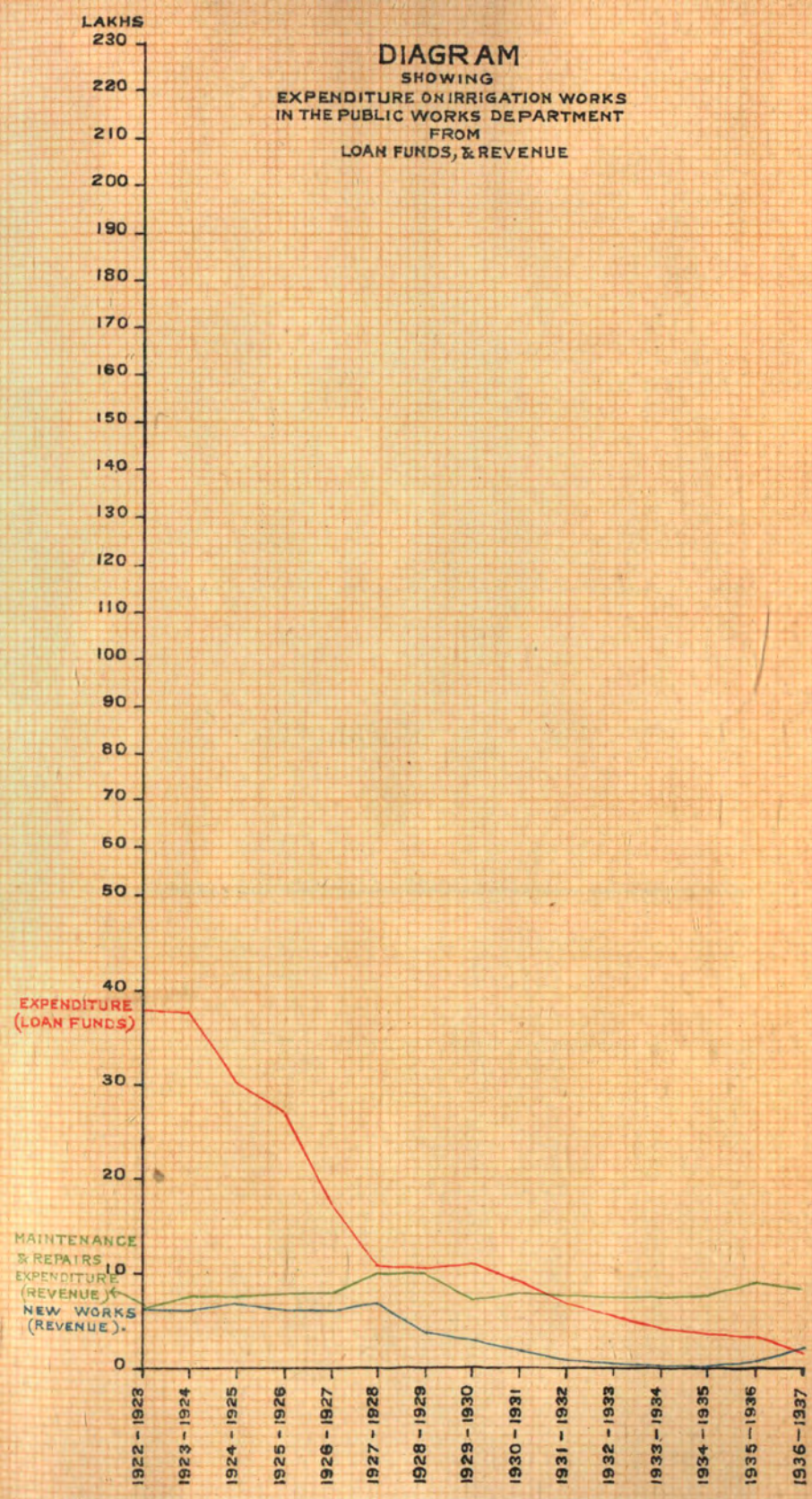
DIAGRAM
SHOWING
PUBLIC WORKS EXPENDITURE.



G.P.Z.O. POONA, 1938.

DIAGRAM

SHOWING
EXPENDITURE ON IRRIGATION WORKS
IN THE PUBLIC WORKS DEPARTMENT
FROM
LOAN FUNDS, & REVENUE



G.P.Z.O. POONA, 1938.

APPENDIX II.

APPENDIX

Statement of roads not within Municipal limits, giving lengths of metalled during the

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Northern Circle ..	Thana	(*a*)449·21	....	(*b*)420·93
	Surat	184·62	8·55	(*d*)135·93
	Broach	53·98	....	34·83
	Kaira	179·90	9·13	60·50
	Panch Mahals ..	(*g*)156·53	(*h*)17·25	(*i*)33·01
	Ahmedabad ..	(*k*)158·50	(*l*)43·44	(*m*)60·10
	Total—Northern Circle ..	1,182·74	78·37	745·30

Note.—The lengths of Provincial roads included in columns 3 and 4 of the above state ties in the Province of Bombay are not now required to contribute towards the maintenance in the remarks column.

(*a*) The increase in the metal length of 1·66 miles as compared with the previous section completed during the year.

(*b*) The increase in the metalled length of 4·55 miles as compared with the previous been metalled and some new roads having been taken up for maintenance by the District was also due to the length found less on actual verification by the District Local Board,

(*c*) The decrease in the unmetalled length of 5·03 miles as compared with the previous metalled by the Board during the year.

(*d*) The decrease in the metalled length of 2·25 miles as compared with previous report one by the Board during the year.

(*e*) The increase in the unmetalled length of 12·38 miles in the Surat Division is due been taken up for maintenance by the Board during the year.

(*f*) The increase in the unmetalled length of 5·30 miles in the Kaira Division is due to

(*g*) and (*h*) The increase in the metalled length of ·25 miles and the corresponding certain unmetalled length having been metalled during the year.

(*i*) The increase in the metalled length of ·88 miles in the Panch Mahals Division is due

(*j*) The increase in the unmetalled length of 2·96 miles in the Panch Mahals Division is

(*k*) and (*l*) The increase in the metalled length of 1·36 miles and the decrease in the Ahmedabad-Viramgam and Viramgam-Mandal roads having been metalled and added

(*m*) The increase in the metalled length of ·49 miles in the Ahmedabad Division is due

(*n*) The decrease in the unmetalled length of ·50 miles in the Ahmedabad Division is year.

II.

and unmetalled roads maintained by the Public Works Department and Local Authorities. year 1936-37.

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
(*c*)266·51	870·14	266·51	26·71	....
(*e*)327·80	320·55	336·35	....	....
192·80	88·81	192·80	1·36	....
(*f*)24·80	240·40	33·93	10·61	....
(*j*)18·58	189·54	35·83	1·38	....
(*n*)298·96	218·60	342·40	....	....
1,129·45	1,928·04	1,207·82	40·06	....

ment are exclusive of the portions passing through the Municipal limits. The Municipali- of Provincial roads passing through their limits and the lengths of these are shown

report in the Thana Division is due to the addition of the length of Talasari-Vapi Road III

report in the Thana Division is due partly to some unmetalled lengths of roads having Local Boards, Thana, and Bombay Suburban District during the year. Some reduction Thana.

report in the Thana Division is mainly due to some unmetalled lengths having been

in the Surat Division is due to the conversion of certain metalled length into unmetalled

partly to the reason given in (*d*) above and partly to certain new unmetalled length having

certain lengths of roads having been taken up and added by the Board during the year.

decrease in the unmetalled length of ·25 miles in the Panch Mahals Division, is due to

to certain unmetalled length having been metalled by the Board during the year.

due to the addition of certain new length of unmetalled road by the Board during the year.

unmetalled length of 1·36 miles in the Ahmedabad Division is due to portions of during the year.

to the conversion of certain unmetalled length into metalled by the Board during the year.

due to certain lengths of unmetalled roads having been metalled by the Board during the

APPENDIX

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Central Circle ..	Poona	(a)224·88	(b)1·25	(d)185·79
	Satara	460·07	39·75	313·69
	Sholapur	(f)345·27	(g)58·15	(i)167·16
	Nasik	461·97	9·22	(k)175·22
	Khandesh	665·31	16·12	(m)309·30
	Total—Central Circle ..	2,151·50	114·49	1,151·16

Note.—(1) The lengths of Provincial roads included in columns 3 and 4 of the above shown separately in columns 9 and 10.

(2) The Municipalities in the Bombay Presidency are not now required to contribute

(*a*) The decrease of 288·01 miles in the Poona Division is due to the transfer of certain

(*b*) The decrease of 13·37 miles in the Poona Division is due to the transfer of certain

(*c*) The decrease of 27·83 miles in the Poona Division is due to the transfer of certain

(*d*) The decrease of 119·31 miles is due to the Local Boards roads in the Satara having

(*e*) The decrease of 838·44 miles is due to the Local Board roads in the Satara having

(*f*) The decrease of 134·09 miles is due to certain lengths of roads in the Mayani Sub-Sub-division.

(*g*) The decrease of 27·75 miles is due to certain lengths of roads in the Mayani Sub-Sub-division.

(*h*) The decrease of ·98 miles is due to certain lengths of roads in the Mayani Sub-Sub-division.

(*i*) The decrease of 190·84 miles is due to the District Local Board roads in the Mayani

(*j*) The decrease of 473·97 miles is due to the District Local Board roads in the Mayani

(*k*) The small decrease of 0·03 miles is due to the lengths of each road being in decimals.

(*l*) The increase of 53·23 miles is partly due to some new roads having been taken over of certain roads.

(*m*) The decrease of 1·64 miles is due to the omission of the Bhusawal-Yawal Road and the additional length of new roads constructed by the District Local Boards during

(*n*) The increase of 31·94 miles is due to the construction of new roads by the District

II—*contd.*

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
(*e*)1,540·82	410·67	1,542·07	(*c*)37·51	....
1,324·81	773·76	1,364·56	16·54	1·37
(*j*)503·22	512·43	551·37	(*h*)31·77	2·50
(*l*)1,558·21	637·19	1,567·43	18·69	0·30
(*n*)725·04	974·61	741·16	32·26	1·53
5,652·10	3,308·66	5,766·59	136·77	5·70

statement are exclusive of the portions passing through Municipal limits which latter are

towards the maintenance of Provincial Roads passing through their limits.
roads to the Satara Division, on its reopening.
roads to the Satara Division, on its reopening.
roads to the Satara Division, on its reopening.
now been shown under Satara Division separately.
now been shown under Satara Division separately.
division having been transferred to the Satara Division on its re-opening along with the

division having been transferred to the Satara Division on its re-opening along with the

division having been transferred to the Satara Division on its re-opening along with the

Sub-division having now been shown under the Satara Division.
Sub-division having now been shown under the Satara Division.

for maintenance by the Taluka Local Boards and partly to the adoption of correct lengths

maintained by the Public Works Department which was shown erroneously previously
the year.
Local Boards during the year.

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Southern Circle ..	Belgaum	(a)542·56	(b)168·11	(g)313·05
	Dharwar	549·77	(c)98·98	(g)553·23
	Ratnagiri	(d)479·53	....	(g)412·78
	Kanara	(e)464·22	113·27	(g)92·64
	Total—Southern Circle ..	2,036·08	380·36	1,371·70

Note.—The variations in the lengths of roads as compared with the lengths given in the

(*a*) The decrease of 78·53 miles is due to exclusion of (*i*) 80·01 miles of unmetalled miles of unmetalled roads metalled during the year and (*iii*) adding of an increase of 0·19 of to two digits as is done now.

(*b*) The increase of 78·78 miles is due to inclusion of 80·01 shown in a (*i*) above pluts in the previous statement instead of to two digits as is done now minus 1·29 miles of

(*c*) The decrease is of 0·50 miles due to the deprovincialisation of the Hubli-Sholapur

(*d*) The decrease of 1·83 miles is due to the transfer of Malwan-Phonda Road to the

(*e*) The decrease of 0·56 miles is due to the transfer of 0·63 miles (out of 2·33 miles of miles on account of construction of a causeway over the Mavinhalla Creek on Sadashivgad-

(*f*) The decrease of 1·70 miles is due to the transfer (out of 2·33 miles of Koney Sezwad

(*g*) The lengths of metalled and unmetalled roads maintained by Local Board

II—*contd.*

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
(*g*)456·52	855·61	624·63	21·50	....
(*g*)363·69	1,103·00	462·67	19·95	4·49
(*g*)986·33	892·31	986·33	17·36	....
(*g*)533·39	556·86	646·66	(*f*)17·79	3·83
2,339·93	3,407·78	2,720·29	76·60	8·32

statement for 1935-36 are explained below :—

roads incorrectly shown under " metalled " in the previous statement, (*ii*) adding of 1·29 miles due to calculation of a mile to the nearest digit in the previous statement instead

0·06 miles being the increase due to calculation of a fraction of a mile to the nearest digit unmetalled roads metalled during the year.

Road in Hubli town.

District Local Board, Ratnagiri.

Koney-Sezwad Road deprovincialised to the District Local Board, Kanara, minus 0·07 Goa Frontier Road).

Road deprovincialised) to the Karwar Municipality.

Authorities shown herein are as now reported by the Local Boards concerned.

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Deccan Irrigation Circle.	Poona Irrigation Division.	(a)230·1	....	....
	Nira Right Bank Canal Division.	32·4	....	....
	Ahmednagar Division ..	298·8	57·6	(b)185·2 (c)310·3
	Nasik Irrigation Division.	47·00	....	....
	Total—Deccan Irrigation Circle.	608·3	57·6	495·5

(a) The decrease of 33·3 miles in the length of roads in the Poona Irrigation Division is to the Satara Division which was re-opened.

(b) Length of miles 185·2 are Provincial Roads maintained by the District Local

(c) The increase of 13·10 miles over last year's length is partly due to corresponding a new road as scarcity work during the year.

(d) The increase of 10·10 miles over last year's length is partly due to corresponding a new road as scarcity work during the year.

(e) The decrease of 13·10 miles over last year's length is partly due to corresponding of a new road as scarcity work during the year.

(f) The decrease of 10·10 miles over last year's length is partly due to corresponding of a new road as scarcity work during the year.

II—*concld.*

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
....	230·1	....	0·8	....
....	32·4	....	1·00	....
(*d*)282·4	(*e*)794·3	(*f*)340	6·3	....
....	47·0	....	....	....
282·4	1,103·8	340	8·1	....

due to portions of Mahad-Pandharpur and old Poona-Satara roads having been transferred

Board, Ahmednagar.

length of unmetalled road having been metalled during the year and partly to addition of

length of unmetalled road having been metalled during the year and partly to addition of

length of unmetalled road having been metalled during the year and partly to addition

length of unmetalled road having been metalled during the year and partly to addition

APPENDIX III.

Mileage of surfaced roads of various classes and motorable earth roads as on 31st March 1937.

Province or State.	Water bound macadam.					
	Stone metal only.			Kunkar, laterite or brick metal.		
1	2			3		
	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
BOMBAY.						
Northern Circle	1,104·02	1,002·07	2,106·09	67·04	115·79	182·83
Central Circle	2,266·62	1,479·35	3,745·97	22·84	45·26	68·10
Southern Circle	1,674·99	1,018·37	2,693·36	498·17	289·85	788·02
Deccan Irrigation Circle ..	795·29	322·80	1,118·09	..	..	..
Total ..	5,840·92	3,822·59	9,663·51	588·05	450·90	1,038·95

Province or State.	Other low type surfaces (murum, gravel, sand, clay).			Surface treated with tar, pitch, asphalt or bitumen.		
1	4			5		
	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
BOMBAY.						
Northern Circle	35·09	585·17	620·26	29·41	162·61	192·02
Central Circle	128·46	2,677·67	2,806·13	2·26	30·93	33·19
Southern Circle	292·21	1,652·87	1,945·08	5·56	..	5·56
Deccan Irrigation Circle ..	57·50	315·30	372·80	5·01	..	5·01
Total ..	513·26	5,231·01	5,744·27	42·24	193·54	235·78

Province or State.	Bitumen, asphalt, tar or pitch grouted macadam.			Premix bitumen, asphalt, tar or pitch.		
1	6			7		
	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
BOMBAY.						
Northern Circle	14·38	44·57	58·95	10·47	74·37	84·84
Central Circle	8·12	0·31	8·43	13·10	16·57	29·67
Southern Circle	8·05	..	8·05	7·51	..	7·51
Deccan Irrigation Circle ..	..	..	..	..	..	..
Total ..	30·55	44·88	75·43	31·08	90·94	122·02

Province or State.	Cement concrete or macadam.			Fair-weather motorable earth roads.		
1	8			9		
	P. W. D.	Local.	Total.	P.W.D.	Local.	Total.
BOMBAY.						
Northern Circle	0·34	9·53	9·87	40·69	507·91	548·60
Central Circle	4·19	1·75	5·94	..	986·06	986·06
Southern Circle	..	..	..	11·25	828·71	839·96
Deccan Irrigation Circle ..	..	..	..	..	..	..
Total ..	4·53	11·28	15·81	51·94	2,322·68	2,374·62

Province or State.	Other motorable roads which cannot be classified under previous headings.			Remarks.
1	10			11
	P. W. D.	Local.	Total.	
BOMBAY.				
Northern Circle ..	..	271·0	271·0	
Central Circle	10·19	26·14	36·33	
Southern Circle	..	7·50	7·50	
Deccan Irrigation Circle ..	..	..	..	
Total ..	10·19	304·64	314·83	

APPENDIX

Statement showing the expenditure on Provincial Buildings and

—	1921–22		1922–23		1923–24		1924–
	41–C.W. Provincial.	60–C.W.	41–C.W. Provincial.	60–C.W.	41–C.W. Provincial.	60–C.W.	41–C.W. Provincial.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(*i*) Expenditure on buildings for original works ..	70,17,468	..	18,40,250	21,36,237	12,74,148	46,74,102	11,72,871
(*ii*) Expenditure on buildings for maintenance ..	11,03,937	..	13,79,087	..	15,99,041	..	14,69,217
(*iii*) Expenditure on metalled Provincial roads for original works ..	19,89,046	..	15,22,488	6,94,085	10,92,068	4,54,014	5,36,719
(*iv*) Expenditure on unmetalled Provincial roads for original works ..	5,00,155	..	97,110	20,903	72,046	20,943	63,591
(*v*) Expenditure on metalled Provincial roads for maintenance ..	19,85,510	..	24,27,684	..	26,69,387	..	27,73,938
(*vi*) Expenditure on unmetalled Provincial roads for maintenance ..	2,53,711	..	2,35,632	..	2,83,378	..	2,81,022

IV.

Roads in the Province of Bombay from 1921–22 *to* 1936–37.

25	1925–26		1926–27		1927–28		1928–29	
60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.
9	10	11	12	13	14	15	16	17
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
36'09,799	12,24,807	38,98,200	22,22,421	17,71,645	9,72,027	13,90,972	9,61,174	19,07,442
..	15,22,903	..	15,95,217	..	17,04,033	..	16,43,248	..
24,18,810	8,30,136	11,41,309	11,19,552	4,09,201	7,95,102	6,26,052	7,40,068	5,42,195
1,14,266	1,36,210	33,048	2,50,893	..	1,65,007	..	1,05,960	..
..	28,80,514	..	30,98,522	..	32,12,327	..	30,99,707	..
..	2,53,433	..	2,55,920	..	2,82,958	..	2,67,776	..

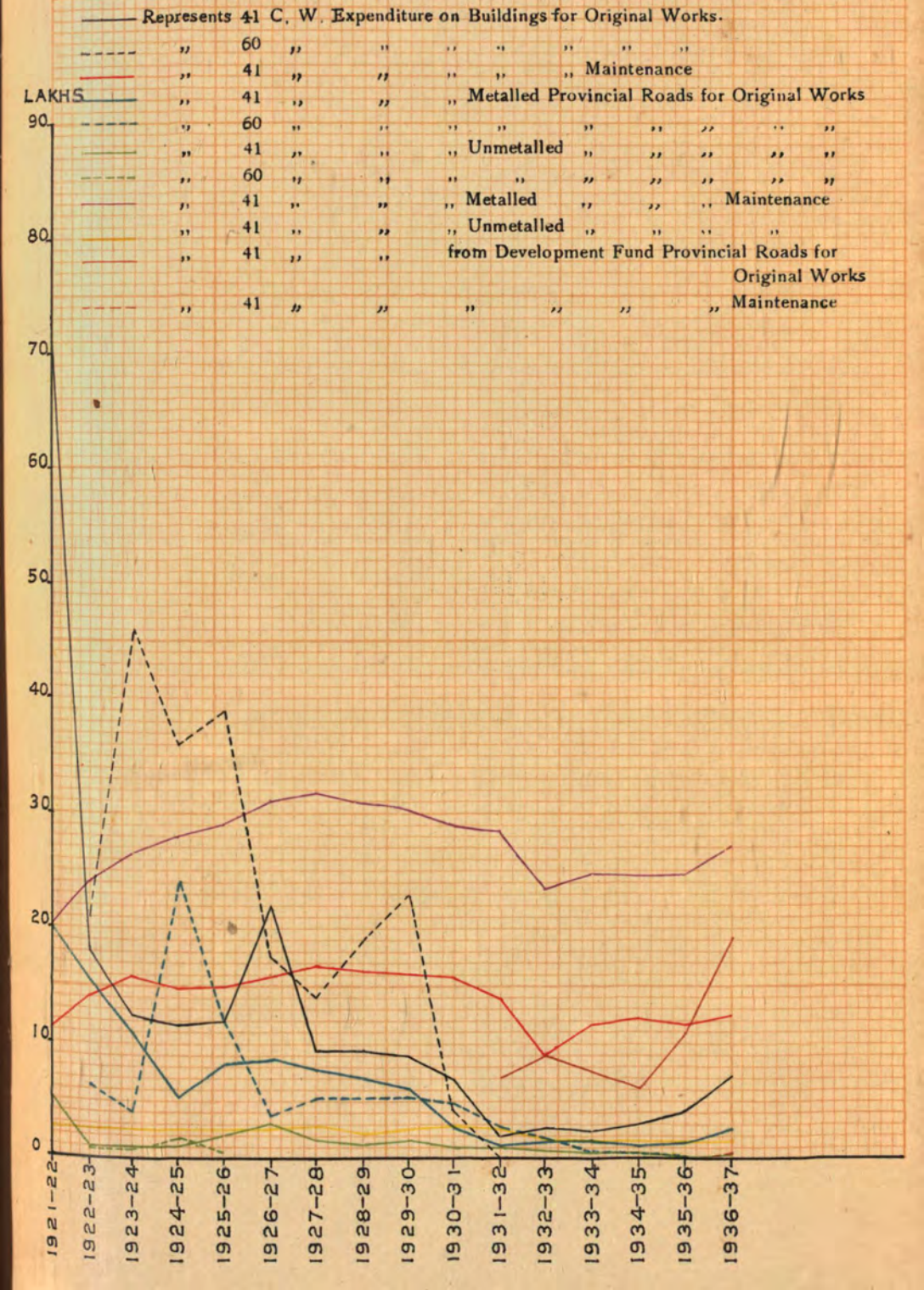
APPENDIX

1	1929-30		1930-31		1931-32		1932-
	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.
	18	19	20	21	22	23	24
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(i) Expenditure on buildings for original works ..	8,88,923	22,83,762	7,15,423	4,32,192	2,38,311	20,397	2,51,734
(ii) Expenditure on buildings for maintenance ..	15,91,742	..	15,54,193	..	13,73,726	..	9,88,704
(iii) Expenditure on metalled Provincial roads for original works ..	5,81,922	5,41,635	3,07,467	4,85,007	1,30,416	2,91,305	1,26,240
(iv) Expenditure on unmetalled Provincial roads for original works ..	1,11,174	..	81,815	..	29,564	..	23,447
(v) Expenditure on metalled Provincial roads for maintenance ..	30,95,081	..	29,37,136	..	28,68,480	..	23,36,968
(vi) Expenditure on unmetalled Provincial roads for maintenance ..	2,54,990	..	2,98,880	..	2,30,071	..	1,61,682
(vii) Expenditure from Road Development Fund in connection with Provincial roads for original works.	..	..	3,00,076	..	7,35,418	..	9,06,785
(viii) Expenditure from Road Development Fund in connection with Provincial roads for maintenance ..	..	..	..	..	..	..	13,078

IV—*contd.*

33	1933-34		1934-35		1935-36		1936-37	
60-C.W.	41-C.W. Provincial	60-C.W.	41-C.W. Provincial	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.
25	26	27	28	29	30	31	32	33
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1,339	2,46,766	11,002	3,19,300	..	4,31,114	...	7,27,341	..
..	11,83,317	..	12,07,928	..	11,94,726	...	12,60,204	..
1,55,554	1,17,263	51,711	1,13,558	23,462	1,45,887	2,405	2,39,854	1,985
..	23,622	..	7,724	..	4,020	..	28,464	..
..	24,82,335	...	24,45,526	..	24,60,031	...	27,00,519	..
..	1,60,738	..	1,50,635	..	1,56,294	..	1,60,055	..
..	8,98,461	..	6,77,174	..	11,60,200	..	19,23,773	..
..	26,258	..	44,383	..	16,500	..	44,726	..

DIAGRAM SHOWING EXPENDITURE ON PROVINCIAL BUILDINGS AND ROADS IN THE PROVINCE OF BOMBAY.



APPENDIX V

APPENDIX

Statement showing the expenditure on District Local Board Roads in the 1921-22

—	1921-22.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(1) Expenditure on metalled District Local Board roads for original works in the Province of Bombay ..	1,80,641	2,11,788	2,45,635	1,85,618	2,22,685	2,14,017	2,08,423
(2) Expenditure on unmetalled District Local Board roads for original works in the Province of Bombay ..	1,00,724	94,250	1,28,734	1,17,791	1,78,703	2,97,654	3,18,374
(3) Expenditure on metalled District Local Board roads for maintenance in the Province of Bombay ..	4,51,946	5,08,794	5,44,584	5,08,349	6,21,726	7,48,360	7,59,703
(4) Expenditure on unmetalled District Local Board roads for maintenance in the Province of Bombay ...	5,18,795	4,55,087	5,30,217	4,92,900	6,36,110	6,79,365	5,91,524

V.

Province of Bombay (original works and repairs) from to 1936–37.

1928–29. 9	1929–30. 10	1930–31. 11	1931–32. 12	1932–33. 13	1933–34. 14	1934–35. 15	1935–36. 16	1936–37. 17
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3,29,532	4,11,234	3,07,573	2,09,334	1,92,344	2,16,078	1,52,374	2,21,560	2,62,065
2,72,491	2,62,200	2,28,956	1,86,361	2,13,520	2,00,288	2,57,209	2,18,755	2,48,945
8,51,468	8,73,140	9,31,051	8,81,092	7,66,140	7,53,558	7,27,755	6,78,079	7,28,847
4,57,202	3,51,071	4,62,352	3,36,081	3,36,929	3,17,477	3,63,204	3,27,876	3,10,919

DIAGRAM SHOWING EXPENDITURE ON D.L.B. ROADS IN THE PROVINCE OF BOMBAY.

ORIGINAL WORKS AND REPAIRS.

Expenditure on unmetalled D. L. B. roads for Maintenance in the Precy Proper

" " Metalled " " " " " " " "

" " " " " " Original Works " " "

" " Unmetalled " " " " " " " "

" " Metalled and Unmetalled D.L.B. Roads for Original Works and Repairs in the Ratnagiri Dist. not included in the Precy. Proper

" " Metalled and Unmetalled D.L.B. Roads for Original Works and Repairs in the Bijapur Dist. not included in the Precy. Proper

APPENDIX VI

APPENDIX

Statement showing expenditure on establishment in the Roads and Buildings and the percentage on the total outlay on works and

Year	Expenditure on Establishment in the Roads and Buildings Branch						Percentage on the total outlay on works and repairs in the Roads and Buildings Branch
	41—Civil Works—Provincial (Transferred and Reserved)	60—Civil Works	41—Civil Works—Central	50—Military Works	Deposit Works	Total	
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1921–22 ..	29,06,955	..	1,98,683	45,258	2,84,992	34,35,888	19·26
1922–23 ..	20,14,640	8,34,450	1,78,163	71,481	77,143	31,75,877	20·79
1923–24 ..	15,84,488	8,10,645	67,892	38,560	6,88,354	31,89,939	19·88
1924–25 ..	16,89,892	12,25,632	1,19,721	27,862	2,52,556	33,15,663	19·67
1925–26 ..	18,89,417	12,05,078	1,01,876	69,049	2,58,535	35,23,955	20·66
1926–27 ..	25,30,286	5,97,486	1,68,896	5,882	3,94,389	36,96,939	23·76
1927–28 ..	21,99,448	5,59,107	1,49,132	5,042	2,97,270	32,09,999	24·96
1928–29 ..	22,40,393	6,56,713	2,29,540	2,240	2,56,180	33,85,066	25·03
1929–30 ..	22,45,450	7,33,867	1,56,773	3,638	2,34,897	33,74,625	25·26
1930–31 ..	25,51,711	1,80,139	1,72,163	2,415	85,444	29,91,872	32·35
1931–32 ..	25,93,104	2,32,929	1,22,709	3,182	44,132	29,96,146	38·70
1932–33 ..	23,74,603	71,981	85,143	3,334	17,156	25,52,217	39·79
1933–34 ..	22,73,945	31,807	71,866	3,810	30,502	24,11,930	37·97
1934–35 ..	21,88,729	38,273	62,472	2,693	47,694	23,39,866	35·82
1935–36* ..	20,51,807	808	80,984	1,539	54,593	21,08,731	35·75
1936–37* ..	23,14,593	619	61,859	1,124	57,679	24,35,874	31·66

NOTE.—The percentage of the establishment charges on the cost of works and repairs in the (column 8). The reason is largely that the establishment charges in the Irrigation Branch include certain canal systems which has no connection with the execution of works and repairs, spent on revenue management including the *control and distribution of water*, which is debited in the ment charges debited in the accounts to "revenue management" are deducted from the total cost so divergent. The increase in the rate per cent. in the R. & B. Branch is mainly due to decrease in which expenditure on works is reduced. A more overall percentage on expenditure on works is

* These figures pertain to the Province of Bombay only.

VI.

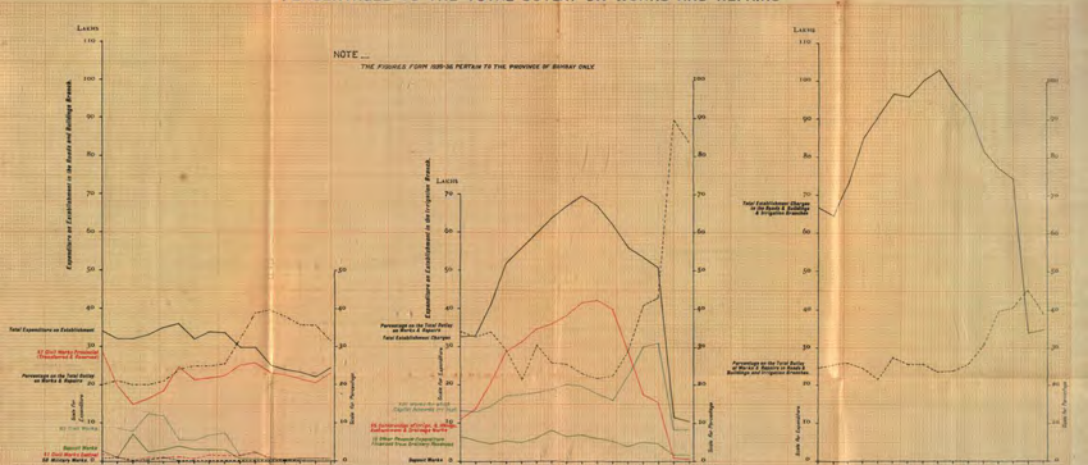
the Irrigation Branches of the P. W. D. from the year 1921–22 to 1936–37 and repairs during that period in both the Branches.

Expenditure on Establishment in the Irrigation Branch						Total Establishment charges in the Roads and Buildings and Irrigation Branches	Percentage on the total outlay of works and repairs in the Roads and Buildings and Irrigation Branches
55—Construction of Irrigation, Navigation, Embankment and Drainage Works	XIII-Works for which capital accounts are kept	15—Other Revenue Expenditure financed from Ordinary Revenues	Deposit Works	Total establishment charges	Percentage on the total outlay on works and repairs in the Irrigation Branch		
9	10	11	12	13	14	15	16
Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	
11,53,734	13,85,960	6,68,651	2,770	32,11,115	33·59	66,47,003	24·26
14,20,751	13,44,901	5,34,327	1,993	33,01,972	32·22	64,77,849	25·38
21,87,793	14,43,222	4,32,013	2,056	40,65,084	33·89	72,55,023	25·87
29,10,785	17,37,724	5,26,361	492	51,75,362	28·73	84,91,025	24·35
32,21,647	17,99,343	5,19,228	2,681	55,42,899	21·62	90,66,854	21·23
35,56,959	18,08,385	5,94,989	3,207	59,63,540	30·56	96,60,479	27·54
36,98,956	19,20,773	7,80,312	3,847	64,03,888	26·00	96,13,887	25·64
39,04,070	21,35,939	6,16,601	2,750	66,59,960	25·51	1,00,45,026	25·35
42,26,873	21,08,302	6,18,312	1,012	69,54,499	23·26	1,03,29,124	23·88
42,88,906	18,31,149	5,99,621	1,734	67,21,470	21·60	97,13,342	24·06
40,37,972	16,34,011	5,18,027	86	61,90,096	22·40	91,86,842	25·97
28,70,427	23,53,071	4,01,329	080	56,26,407	28·54	81,78,624	31·30
17,60,090	29,83,531	5,14,407	48,960	53,06,088	40·41	77,18,918	39·01
15,36,830	30,08,255	4,55,037	441	50,90,563	42·89	74,30,429	40·38
1,37,301	8,06,476	1,73,501	61	11,77,339	89·46	33,76,070	45·21
74,021	8,24,868	1,03,507	620	10,03,016	83·73	34,98,890	39·04

Irrigation Branch (column 14) is generally higher than that in the Roads and Buildings Branch the cost of Special Revenue Establishment employed entirely on "revenue management" work on and that these charges also include cost of part of the time of Irrigation establishment accounts to "revenue management" and not to execution of works and repairs. If these establish- of establishment in the Irrigation Branch the percentage on the cost of works and repairs will not be outlay on "works" and "repairs". Establishment charges cannot be reduced in the same ratio in inaccurate.

DIAGRAM SHOWING EXPENDITURE
ON ESTABLISHMENT
IN THE
ROADS & BUILDINGS & IRRIGATION BRANCHES
OF THE
PUBLIC WORKS DEPARTMENT
AND
PERCENTAGES TO THE TOTAL OUTLAY ON WORKS AND REPAIRS

NOTE :—
THE FIGURES FORM 1926-36 PERTAIN TO THE PROVINCE OF BOMBAY ONLY


Lakhs
Expenditure on Establishment in the Roads and Buildings Branch.
Total Expenditure on Establishment
Percentage on the Total Outlay on Works & Repairs
Rupees
Lakhs
Expenditure on Establishment in the Irrigation Branch.
Percentage on the Total Outlay on Works & Repairs
Total Establishment Charges
Rupees
Lakhs
Total Establishment Charges in the Roads & Buildings & Irrigation Branches
Percentage to the Total Outlay on Works & Repairs in the Roads & Buildings and Irrigation Branches
Rupees

Govt. Photozincographic Dept. Poona, 1938.

APPENDIX VII.

Statement showing the programme of road development works in the Province of Bombay since the institution of the Petrol Tax Fund to end of the year 1936-37 together with the expenditure to end of that year.

ABSTRACT.

Serial No.	Name of work.	Estimated cost.	Expenditure to end of 1936-37.
	Class I.	Rs.	Rs.
1	Bombay-Agra Road	6,04,069	5,80,339
2	Bombay-Poona-Bangalore Road	18,76,497	10,17,529
3	Bombay-Konkan-Goa Road	24,96,522	15,79,039
4	Bombay-Ahmedabad-Rajputana Road ..	10,34,480	8,37,897
5	Surat-Dhulia-Bhusawal-Edlabad-Nagpur Road ..	6,12,126	1,29,528
6	Ahmedabad-Kaira-Godhra-Indore Road ..	1,42,094	1,15,431
7	Bombay-Poona-Ahmednagar-Aurangabad Road ..	9,783	9,698
8	Bombay-Poona-Sholapur-Hyderabad Road ..	3,37,024	2,74,615
9	Chiplun-Karad-Jath-Bijapur-Sindgi-Raichur Road.	5,93,613	87,214
10	Sholapur-Bijapur-Hubli Road	2,69,969	1,89,307
11	Ratnagiri-Kolhapur-Miraj-Bijapur-Hyderabad Road.	26,256	15,972
12	Karwar-Bellary Road	2,05,193	1,95,135
	Class II.		
13	Bandra-Ghodbunder-Thana Road	1,33,465	1,28,939
14	Dahanu-Vihigaon Road	12,925	11,281
15	Ahmedabad-Viramgam-Mandal Road ..	2,74,666	2,51,593
16	Alibag-Dharamtar-Pen-Campoli Road ..	69,044	24,808
17	Ahmedabad-Gogho Road	1,38,636	52,217
18	Barhanpur-Raver-Yawal-Chopda-Shirpur-Taloda-Raisingpur Road.	7,26,900	10,007
19	Ghoti-Rajur-Sangamner-Belapur-Newasa-Shevgaon-Paithan Road.	1,71,218	41,780
20	Nasik-Poona Road	2,11,917	81,286
21	Indapur-Baramati-Nira Road	78,499	71,797
22	Sholapur-Osmanabad Road	29,977	10,000
23	Belgaum-Khanapur-Haliyal-Yellapur-Sirsi-Kodkini-Mysore Frontier Road.	1,43,496	62,635
24	Kumta-Sirsi-Hubli Road	2,40,771	1,56,508

APPENDIX VII—*contd.*

Serial No.	Name of work.	Estimated cost.	Expenditure to end of 1936–37.
	Class III.	Rs.	Rs.
25	Mandvi-Madhi Road	12,213	4,999
26	Osmanabad-Yedshi Road	11,806	11,037
27	Yedshi-Chausala Road	19,550	14,603
28	Dharwar-Goa Frontier Road	12,448	497
29	Karwar to Goa Frontier Road	16,686	15,192
30	Karwar-Bhatkal Madras Frontier Road ..	1,74,786	32,393
31	Asphalting different sections of roads near and about Belgaum.	80,327	80,121
32	Modernising roads in Poona (1st and 2nd instalments).	4,16,194	3,08,085
33	Asphalting of Provincial roads passing through Dhulia.	1,05,000	12,006
34	Cost of repairs and maintenance of works financed from the Road Account.	....	1,44,940
35	Cost of survey works for preparation of plans and estimates and trial borings.	9,240	7,139
36	Cost of road experiment works	1,12,191	1,00,231
	Add for rounding ..	1,14,09,581	66,65,798 28*
	Grand Total ..	1,14,09,581	66,65,826

*This is in order to arrive at the figure given in the Appropriation Accounts for 1936–37. This small difference is due to fractional expenditure on several works.

APPENDIX VIII.

List of members of the Board of Communications as on the 31st March 1937.

1. The Honourable Sir Ali Mahomed Khan Dehlavi, Kt., Minister for Local Self-Government (Chairman).
2. T. A. Andrew, Esquire, I.E.S., Chief Engineer and Secretary to Government, Public Works Department.
3. J. H. Garrett, Esquire, C.S.I., I.C.S., Commissioner, Northern Division.
4. J. W. Smyth, Esquire, C.S.I., C.I.E., I.C.S., Commissioner, Central Division.
5. J. A. Madan, Esquire, C.I.E., I.C.S., Commissioner, Southern Division.
6. H. T. Sorley, Esquire, I.C.S., Secretary to Government, General Department.
7. C. G. Freke, Esquire, C.I.E., I.C.S., Secretary to Government, Finance Department.
8. R. A. Fitzherbert, Esquire, I.S.E., Deputy Secretary to Government, Public Works Department, and Secretary, Board of Communications.
9. The Chief Engineer, Southern Command, Poona.
10. Rao Bahadur S. N. Angadi, M.L.C.
11. G. S. Gangoli, Esquire, M.L.C.
12. Rao Bahadur Bhimbhai R. Naik
13. Rao Bahadur G. K. Chitale

    } Representing District Local Boards.

14. H. E. Ormerod, Esquire, Representative, Indian Roads and Transport Development Association, Limited, Bombay.
15. G. O. Pike, Esquire, Representative, Bombay Chamber of Commerce.
16. N. M. Chinoy, Esquire, Representative, Western India Automobile Association, Bombay.
17. K. S. Ramchandra Iyer, Esquire, Representative, Indian Merchants Chamber.
18. M. L. Dahanukar, Esquire, Representative, Maharashtra Chamber of Commerce.
19. Agent, Great Indian Peninsula Railway.

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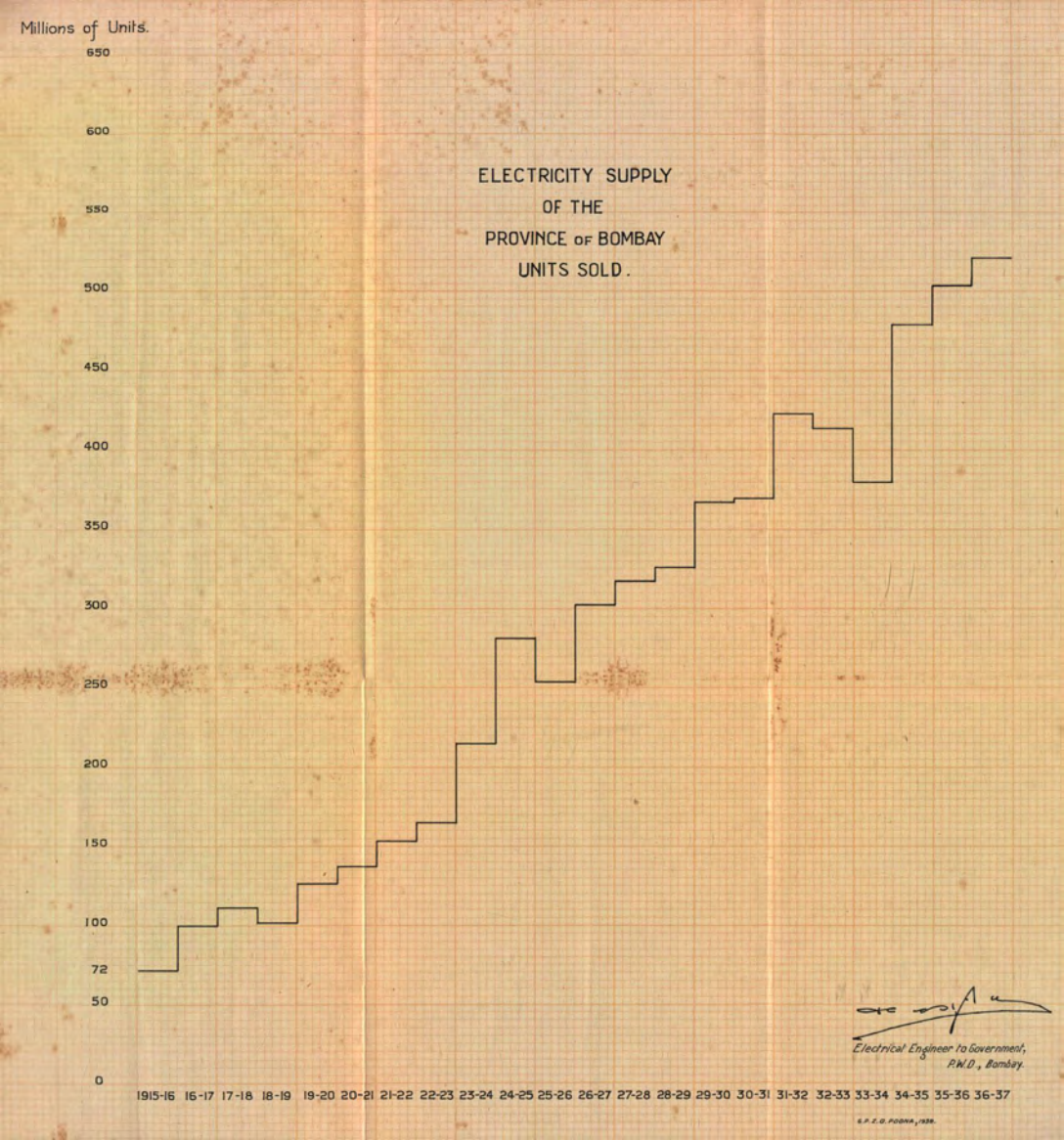
Government of Maharashtra
on 22 July, 2017


Millions of Units.
650
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300
250
200
150
100
72
50
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ELECTRICITY SUPPLY
OF THE
PROVINCE OF BOMBAY
UNITS SOLD.
1915-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33 33-34 34-35 35-36 36-37
Electrical Engineer to Government,
P.W.D., Bombay.
G.P.S.O. POONA, 1938.